

Remarks

I. 35 USC 112

Claims 3-4, 10 and 13-17 stand rejected under 35 USC 112, second paragraph.

The Office Action states:

Claims 3-4, 10, 13-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (a) claims 3 & 4 recite that either the first piece or the second piece encircle the other piece, renders the claim(s) indefinite, since it is considered that both conditions could not occur at the same time;

Applicants respectfully assert that claim 3 and claim 4 are not indefinite, because these claims do not depend on each other, and do not require that ‘both conditions occur at the same time.’ In one embodiment, such as that described in paragraph [0059], “said second piece includes a frame that at least partly encircles said first piece.” In another embodiment, such as that described in paragraph [0072], “said first piece includes a frame that at least partly encircles said second piece.”

The Office Action further states:

(b) claim 10 is misdescriptive since the second piece is part of the actuator so it is not readily apparent how it would be “adjoined” to itself.

Claim 10 recites:

The apparatus of claim 1, wherein:
said actuator includes damping material adjoining said second piece.

Applicants respectfully assert that claim 10 does not recite that “said actuator includes damping material adjoining said second piece to said actuator,” as the Office Action seems to be saying. Instead, claim 10 states that the actuator includes damping material as well as the second piece, and that the damping material is adjoining the second piece (see, e.g., International Rectifier Corp. v. IXYS Corp., 70 USPQ2d, 1209, 1217 (Fed. Cir. 2004).

The Office Action further states:

(c) claims 13-17 the phrase “said moveable element” lacks antecedent basis;

Applicants have amended claims 13-17 to replace the phrase “said moveable element” with the phrase “said rotor.”

The Office Action further states:

(d) claim 16 the phrase “said frame” lacks antecedent basis.

Applicants have amended claims 16 to replace the phrase “said frame” with the phrase “said stator.”

Applicants thank the Examiner for identifying the typos in claims 13-17.

II. 35 USC 102

A. Claims 1-2, 5, 9-12 and 18 stand rejected under 35 USC 102(e) as being unpatentable over U.S. Patent No. 6,587,313 to Kurihara et al. (Kurihara). The Office Action states:

Claims 1-2, 5, 9-12 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Kurihara et al (6,587,313). In so far as these claims are definite and understood, Kurihara discloses an apparatus for reading or writing information on a media, the apparatus (referring mainly to FIGs. 2-3) including: (as per claims 1 & 11) a body 104 having a center of mass, a surface 108a, and an electromagnetic transducer 109; an actuator 200 disposed adjacent the surface and including a first piece 200c (stator); a plurality of deformable elements 200b coupled to the first piece; and a second piece 200a (rotor) coupled to the deformable elements; wherein each of the deformable elements have a shape that changes in response to a signal to rotate said second piece relative to said first piece about an axis of rotation F2 (see col. 8, lines 15-19); wherein a distance between one of the deformable elements and the axis of rotation is less than a length of the deformable element (evident from FIG. 3), and a distance between said transducer 109 (which is on the tip of the slider) and the axis of rotation is at least several times greater than the distance between the deformable element and the axis of rotation (again, evident from the FIGs.);

Applicants respectfully assert that several limitations of claim 1 are not disclosed in Kurihara, as that reference is interpreted by the Office Action, and so the Office Action does not present a prima facie case of anticipation of claim 1.

For example, claim 1 in part recites “a plurality of deformable elements coupled to said first piece.” The Office Action labels Kurihara’s “tip end 200c” a first piece, and Kurihara’s “spiral arms 200b” deformable elements. It is clear from Fig. 3 of Kurihara,

however, that only one of the “spiral arms 200b” is coupled to the “tip end 200c,” in contrast to claim 1.

Moreover, claim 1 in part recites “a body having a center of mass, a surface, and an electromagnetic transducer.” The Office Action labels Kurihara’s “slider 104” a body, and “attachment portion 108a” of “suspension 108” a surface. It is clear from Fig. 3 of Kurihara, however, that “attachment portion 108a” is not a surface of “slider 104,” in contrast to claim 1.

Independent claims 11 and 19 are not anticipated by Kurihara for similar reasons to those mentioned above. For at least the above reasons, all the claims that depend from claims 1, 11 and 19 are also not anticipated by Kurihara.

B. Claims 1-3, 5-6, 8-12 and 18-22 and 24-25 stand rejected under 35 USC 102(e) as being unpatentable over U.S. Patent No. 6,246,552 to Soeno et al. (Soeno). The Office Action states:

Claims 1-3, 5-6, 8-12 and 18-22 and 24-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Soeno et al (6,246,552). In so far as these claims are definite and understood, Soeno discloses an apparatus for reading or writing information on a media, the apparatus (referring mainly to FIGs. 4 & 5) including: (as per claims 1, 11 & 19-20) a body 2 having a center of mass, a surface (unnumbered), and an electromagnetic transducer 1; an actuator 4 disposed adjacent the surface and including a first piece 43 (stator/frame); a plurality of deformable elements 41/45 coupled to the first piece; and a second piece 44 (rotor/moveable element) coupled to the deformable elements; wherein each of the deformable elements have a shape that changes in response to a signal to rotate said second piece relative to said first piece about an axis of rotation (see col. 19, lines 52-67); wherein a distance between one of the deformable elements and the axis of rotation is less than a length of the deformable element (evident from the FIGs.), and a distance between said transducer 1 (which is on the tip of the slider) and the axis of rotation is at least several times greater than the distance between the deformable element and the axis of rotation (again, evident from the FIGs.); (as per claims 2 & 12) wherein the second piece 4 is coupled to the body so that the axis of rotation is substantially aligned with the center of mass;

Applicants have amended claim 1 to include the limitation that “said second piece is coupled to said body so that said axis of rotation is substantially aligned with said center of mass.” Soeno does not disclose this limitation, and for at least this reason Soeno

does not anticipate amended claim 1. In FIG. 4 of Soeno, for example, the large ramp at the front of slider 2 would appear to shift the center of mass of the slider from midway between leading and trailing ends. Other figures of Soeno show rotation even further removed from a center of mass.

Applicants have amended independent claim 11 to include the limitation that “said rotor is coupled to said head so that said axis of rotation is substantially aligned with a center of mass of said coupled head and rotor.” Soeno does not disclose this limitation, and for at least this reason Soeno does not anticipate amended claim 11.

Independent claim 19 is not anticipated by Soeno for similar reasons to those mentioned above. For at least the above reasons, all the claims that depend from claims 1, 11 and 19 are also not anticipated by Soeno.

In addition, note that Soeno does not disclose the additional limitations of both claim 3 and claim 4.

Moreover, note that Soeno does not disclose that “one of said deformable elements has material disposed contiguously between said first piece and said second piece along a straight line aligned with said axis of rotation,” in contrast with claim 8.

Further, note that Soeno does not disclose “a suspension ... including a fulcrum that is substantially aligned with said axis of rotation,” in contrast to claim 9.

Regarding claims 10 and 18, applicants respectfully disagree with the Office Action assertion that Soeno discloses “a bonding adhesive layer (see col. 17, line 5) which is considered to have inherent damping characteristics.” Many forms of bonding do not have this characteristic, e.g., diffusion bonding, thermo-compression bonding, etc.

Regarding claim 13, applicants respectfully assert that Soeno does not disclose that “said rotor has a void aligned with said axis of rotation.”

Regarding claim 14, applicants respectfully assert that Soeno does not disclose that “said rotor is shaped substantially as a letter H.”

Regarding claim 15, applicants respectfully assert that Soeno does not disclose that “said rotor is shaped substantially as a fan.”

For at least these additional reasons, numerous dependent claims at issue are not anticipated by Soeno.

III. Allowable Subject Matter

Applicants appreciate the indication that claims 7 and 23 contain allowable subject matter.

IV. Conclusion

Applicants have amended certain claims to ensure that the claims are definite and not anticipated. As such, applicants respectfully assert that the application is in condition for allowance, and a notice of allowance is solicited.

Respectfully submitted,


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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to MS No Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on April 30, 2004.

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Mark Lauer



Mark Lauer
Reg. No. 36,578
6601 Koll Center Parkway
Suite 245
Pleasanton, CA 94566
Tel: (925) 484-9295
Fax: (925) 484-9291